

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of
Jack Simpson

For: TRIM EDGE STRIPPER FOR A
CORRUGATED BOARD ROTARY
CUTTING DIE

Serial No. 09/054,564

Filing Date: April 3, 1998

Attorney Docket No. P-3489.028



G. Bae
Examiner
Group 3724

Raleigh, North Carolina
February 21, 2000

Sir:

The present appeal brief is filed in triplicate pursuant to 37 C.F.R. § 1.192. In addition a petition for a one-month extension of time to file the brief is submitted herewith. Also enclosed is a check in the amount of \$410.00 as required by 37 C.F.R. § 1.17(b) and as required for the one-month time extension. If this check is insufficient in any way, the Patent Office is authorized to charge any additional fees to our deposit account, Account no. 18-1167.

APPEAL BRIEF

(1) REAL PARTY IN INTEREST

The real party in interest is Container Graphics Corporation whose address is 200 MacKenan Court, Cary, North Carolina 27512.

(2) RELATED APPEALS AND INTERFERENCES

02/25/2000 SLUANG1 00000083 09054564

02 FC:120

300.00-00

9 / appeal
Brief
3/1/00
J. Bae

RECEIVED
FEB 29 2000
TECHNOLOGY CENTER 700

There are no related appeals or interferences to the best of Applicant's knowledge.

(3) STATUS OF CLAIMS

A total of forty-four (44) claims have been presented for examination. Applicant has appealed from the rejection of all forty-four (44) claims.

However, Applicant wishes to cancel claims 36-44 without prejudice. These claims are fairly duplicative of some of the preceding claims and therefore the board does not need to be burdened with reviewing them.

Therefore, for purposes of appeal, the board is respectfully urged to consider claims 1-35.

(4) STATUS OF AMENDMENTS

All amendments have been entered with the possible exception that Applicant may need to cancel claims 36-44 in accordance with the comments set forth above.

(5) SUMMARY OF INVENTION

The present invention relates to a rotary die for cutting corrugated board. More particularly this invention relates to a rotary die that is provided with a new trim stripper for dealing with the trim cut from corrugated board blanks fed into the rotary die cutter.

To appreciate the present invention, it will be beneficial to briefly review how the rotary cutting die forms corrugated boxes. The process starts with a blank corrugated sheet (blank) which is designated in the drawings by CB. The blank CB is fed into the nip of the rotary cutting die. See Figures 4A and 4B. One of the primary functions of the die is to "trim" the blank CB. That is, the rotary cutting die cuts an outside "trim piece" 62 from the blank CB. What is left is

referred to as the product sheet or product portion. It is the product sheet or product portion from which the corrugated boxes are made.

As noted above, the present invention entails a new trim stripper that is designed to engage and control the movement of the trim pieces 62 after they have been cut from the corrugated blank CB. In this disclosure, there is shown a number of different designs for the trim stripper. There is shown a first design in Figures 2A and 3A-3C. This trim stripper is denoted by the numeral 10. In this regard, Figure 2B shows an alternative design for the trim stripper shown in Figure 2A.

A second design for the trim stripper is shown in Figures 5 and 6. This trim stripper is indicated generally by the numeral 100. Finally, a third design for the trim stripper is shown in Figure 10. This trim stripper is indicated generally by the numeral 200.

For purposes of this discussion, the trim stripper shown in Figures 2A and 3A-3C will be discussed. It will be noted that this trim stripper design, like the other designs disclosed, includes an angled outer surface. More particularly, in all cases, the trim stripper is mounted outside a trim cutting blade 44. The angled outer surface of the trim stripper is particularly angled outwardly and away from the trim blade 44 in such a fashion that at least a portion of the angled outer surface extends past the height of the trim blade. This can be easily seen in Figures 4A-4B.

The basic operation of trim stripper 10 is illustrated in Figures 4A-4F. There it is seen that the blank corrugated board CB is fed into the nip of the die. As the blank CB advances through the nip, the trim blade 44 acts to cut the trim piece 62 from the blank CB. That is shown in Figure 4C. As the die rotates, the angled surface of the trim stripper 10 engages the cut trim piece 62 and pushes it down onto the anvil surface 52. This causes the trim piece 62 to be

directed generally downwardly by the rotating anvil 50. This is important because it separates the trim piece 62 from the resulting product sheet or product portion. Again, the product sheet is what is left after the trim pieces 62 have been cut from the corrugated blank CB. Thus the resulting product sheet can be directed generally horizontally from the rotating die while the trim pieces 62 are effectively separated because they are directed generally downwardly by the counter clockwise rotation of the anvil 50, as illustrated, for example, in Figure 4F.

The trim strippers disclosed in Figures 5, 6 and 10, differ from the trim stripper of Figure 2A inasmuch as they include a finger or flexible deflector for providing more positive control over the trim pieces 62 after they have been cut. Note in Figure 5, for example, the finger or deflector 126. In Figure 10 note the finger or flexible deflector 220. In both cases, these fingers or flexible deflectors extend outwardly from the main body of the trim stripper.

(6) ISSUES

Whether claims 1-36 are anticipated and therefore unpatentable over the Smithwick patent, U.S. 5,636,559.

(7) GROUPING OF CLAIMS

Claims 1, 2, 5, 6, 10 and 11 stand together.

Claim 3 stands alone.

Claim 4 stands alone.

Claim 7 stands alone.

Claims 8 and 9 stand together.

Claim 12 stands alone.

Claim 13 stands alone.

Claims 14, 15, 17, 18 and 19 stand together.

Claim 16 stands alone.

Claims 20 and 21 stand together.

Claims 22, 23, 24, 25, 26 and 27 stand together.

Claims 28 and 29 stand together.

Claim 30 stands alone.

Claim 31 stands alone.

Claim 32 stands alone.

Claims 33, 34 and 35 stand together.

(8) ARGUMENT

A. The Law of Anticipation

Anticipation under §102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773 (Fed. Cir. 1985). That is, every element and limitation of the claim must be identically shown in a single reference. In re *Bond*, 15 U.S.P.Q. 2d 1566 (Fed. Cir. 1990).

Moreover, in considering anticipation, all elements and limitations, no matter how expressed, must be considered. Indeed, in determining anticipation, functional language, preambles, and language in “whereby”, “thereby”, and “adapted to” clauses must be considered. They cannot be ignored. *Pac-Tec, Inc. v. Amerace Corp.*, 14 U.S.P.Q. 2d 1871 (Fed. Cir. 1990), *cert. denied*, 502 U.S. 808 (1991).

B. The Examiner's Rejection is Clearly Flawed.

The Examiner has rejected all 35 claims as being anticipated by the commonly owned patent to Smithwick, U.S. 5,636,559. However, the Smithwick reference has nothing whatsoever to do with controlling the flight or disposition of the cut trim pieces. Indeed, Smithwick is directed solely to ejecting scrap cut from the product sheet or product portion. In particular, note in Figure 2, where there is a cutting blade 112 that extends around a cavity area denoted by the numeral 114. Inserted within the cavity area 114 is a scrap ejector indicated by the numeral 10 and shown in Figure 3. In this case the outermost surrounding blade 112 serves the function of the trim blade. To illustrate that, attached hereto as Exhibit 1 is Figure 2 of Smithwick which shows the trim blade as being highlighted. Thus it is appreciated that the scrap ejectors 10 are all positioned inside of the trim blade and as such only function to eject scrap from the product sheet. That is, when producing a corrugated box or container, it is common to produce slots for flaps or tabs. See Smithwick, column 3, lines 14-16. Thus, the scrap ejector 10 in the Smithwick patent is used to eject scrap cut from the product sheet to form the slots for flaps or tabs in the ensuing corrugated container.

C. All Pending Claims are Limited to a Trim Stripper Mounted Outside the Trim Blade for Engaging Cut Trim Pieces and Separating the Cut Trim Pieces from the Resulting Product Portion.

Each and every claim of the present application is limited to a rotary cutting die having at least one trim stripper mounted outside the trim blade for engaging cut trim pieces that are cut by the trim blade. That, in and of itself, distinguishes the present invention from the disclosure in Smithwick. Smithwick does not include a trim stripper, and certainly does not include a trim stripper mounted outside the trim blade. Indeed, as outlined above, there is no stripping device of any type disclosed in Smithwick that lies outside the trim blade. The ejectors 10 used by

Smithwick to eject scrap cut in forming slots in the product sheet are all disposed interiorly or on the inside of the trim blade. See Exhibit 1 attached. Indeed, Smithwick does not even deal with the problem of controlling the flight or disposition of trim pieces cut from a blank corrugated board. The entire focus of the Smithwick reference is on cutting slots in the product portion of the corrugated board and ejecting the scrap from which the slots are formed.

The position of the Examiner in this case is remarkable. The Examiner's position is that "the scrap in Smithwick can be the product to manufacture tiny small boxes and the outside can be the scrap." This "tiny small box" theory has no support in logic or the Smithwick reference. Scrap cut from the product sheet has never been used to make tiny small boxes. In relying on this "tiny small box" theory the Examiner has grossly misconstrued the Smithwick reference and its teachings. Fundamentally, the application of § 102 requires that both the applicant's claims and the applied reference be properly construed. A § 102 rejection cannot be based on a flawed or improper analysis of the applied reference.

1. Claim 1 and the Claims Depending Directly or Indirectly Therefrom

Claim 1 is not anticipated by the Smithwick reference for any one of several reasons. First, the claim calls for at least one trim stripper mounted outside the trim cutting blade. In the Smithwick reference, the scrap ejector is mounted inside the surrounding trim blade. See Exhibit 1. Secondly, Smithwick does not show a trim stripper. Indeed, Smithwick does not even discuss dealing with the cut trim pieces. The entire thrust of the Smithwick disclosure is directed at the scrap ejector 10 that is used to eject cut scrap from the product sheet to form the slots that are used for flaps or tabs in the corrugated box. See column 3, lines 14-16 of the Smithwick reference. As noted above, a § 102 refusal depends upon a proper interpretation of the claims at issue. Here, a trim stripper is not a scrap ejector. Thirdly, claim 1 calls for the trim stripper to

include an angled outer stripper surface that is angled outwardly and away from the trim blade. Again, the Smithwick reference does not even show a trim stripper that is disposed on the outside of the trim blade. Figure 4A shows the angled outer stripper surface 12 and how it is angled outwardly and away from the trim blade 44. Nowhere can that relationship be found in the Smithwick reference.

Claim 3 calls for the angled outer surface of the trim stripper to engage a leading edge of the corrugated board sheet as it enters the nip area and hold one or more cut pieces of trim against the anvil as the cut scrap exits the nip area of the rotary cutting die. In Smithwick, the scrap ejectors 10 do not engage a leading edge of the corrugated board sheet. To the contrary, the scrap ejectors do not come into play until after the leading edge has been cut to remove a trim piece. Indeed the scrap ejectors do not act on the leading edge of the corrugated board sheet. They act on the scrap that is cut from the product sheet to form a slot for flaps or tabs.

Claim 4 calls for the trim stripper to include an upper beveled filler region. This is illustrated by the numeral 20 in Figures 2A-3C. Essentially this beveled filler region projects into engagement with the adjacent beveled portion of the trim blade and thus fills the void that would normally exist there. The Smithwick reference does not show a trim stripper with a beveled filler region. In fact, the lugs 16 that form the scrap ejector do not even lie adjacent any blade and certainly do not include a projection that extends to and adjacent the beveled area of a blade.

Claim 7 calls for the trim stripper to include a leading portion that extends outwardly past the height of the trim blade and a trailing portion that assumes a height that is approximately the height of the trim blade. This is illustrated in Figure 4A. Note how the angled outer surface 12 extends outwardly from the tip of the trim blade 44. There is no such structure or relationship

shown in the Smithwick reference. The individual lugs 16 in Smithwick are not even disposed adjacent the trim blade in the manner shown in Figure 4A. Indeed the top portion of the respective lugs are flat. In order to anticipate this claim, at the very minimum, the trim stripper has to lie adjacent a trim blade and include an outer surface that is angled outwardly and away from the tip of the blade. Certainly Smithwick does not teach this.

Claim 8 recites the feature that enables the trim stripper to be reversed. Note in Figure 8, that once one face or outer surface of the trim stripper is worn, the entire device can simply be reversed such that the former opposite angled outer surface can be used to engage the oncoming corrugated board sheets. Clearly, the individual lugs of Smithwick cannot be reversed.

Claim 12 calls for the previously described trim stripper to include a flexible trim deflector. This is illustrated in Figures 5 and 10. The scrap ejector of Smithwick, as shown in Figure 3, does include a series of compressible lugs 16. Therefore, even if we assume that the lugs could constitute a trim stripper, then one has to ask, where is the flexible trim deflector? In short, in order for an element in Smithwick to be a flexible trim deflector it must be utilized for the purpose of deflecting cut trim pieces. Claims 13 and 14 call for the trim deflector to be spaced from and to lead the trim cutting blade, and for the trim deflector to assume the shape of a flexible finger. Clearly the ejector of Figure 3 in the Smithwick patent does not show a trim deflector that leads the trim blade. By leading the trim blade it is meant that the trim deflector is spaced forwardly (relative to the direction of travel) of the trim blade 44. In addition, the ejector as shown in Figure 3 of Smithwick does not include a deflector in the form of a flexible finger. The flexible finger is indicated by numeral 126 in Figure 5, and by numeral 220 in Figure 10.

Claim 16 calls for the finger to be relatively thin compared to its transverse width. Again the thin nature of the finger can be seen from viewing the side elevational views of Figure 5 and

10. That enables the finger to be flexible and to play a positive role in urging the trim pieces down on the anvil so as to separate them from the following product portion.

Claim 20 calls for the trim stripper to include a flexible finger that in a non-compressed position extends outwardly past the trim blade, and wherein in another position the flexible finger curls around a portion of the cut trim piece as the flexible finger and cut trim pass through the nip. This is illustrated, for example, in Figure 12. In this embodiment of the present invention, the flexible finger exerts more control over the cut trim piece and essentially prevents it from flying off horizontally from the nip. Of course, the Smithwick reference does not even include such a finger.

2. Claim 22 and the Claims Depending Therefrom.

Claim 22 is similar to claim 1 except that it adds the flexible deflector, such as shown in Figures 5 and 10. That is, claim 22 is restricted to a rotary cutting die having at least one trim stripper. The trim stripper includes a body portion, plus a flexible deflector projecting outwardly from the body portion for engaging the cut trim piece and assisting in controlling the movement of the cut trim piece after it has been cut by the cutting die. Again, as argued in the case of claim 1, the Smithwick reference does not show a trim stripper disposed outside the trim blade. Indeed, in Smithwick there is absolutely no structure lying outside the trim blade for engaging cut pieces of the corrugated board. That distinction, in and of itself, is sufficient to carry patentability with respect to claim 1 or claim 22. Secondly, the entire focus of all of the claims is directed at engaging, handling and controlling cut trim pieces. The Examiner cannot ignore the term "trim piece". A trim piece, as explained before, is the trimming cut that is made on a corrugated board blank CB. The term trim piece cannot mean a piece of scrap that is cut from the product sheet to form a slot to accommodate tabs or flaps. Thirdly, in the case of claim 22,

the invention first calls for the trim stripper and then to a flexible deflector projecting outwardly from the body portion of the trim stripper for engaging cut trim pieces. There is no flexible deflector extending from the main body of a trim stripper in the Smithwick patent. Certainly there is no deflector for engaging the cut trim of the corrugated blank CB. Again, it is important to appreciate that claim 22 is restricted to a structure that includes first a trim stripper (such as the device shown in Figure 2A) and secondly a deflectable finger that extends outwardly from the main body of the trim stripper for engaging the cut trim pieces. Viewing Figure 3 of Smithwick, there is no combination trim stripper and flexible finger shown in the scrap ejector. Accordingly, claim 22 is patentable.

3. Claim 28 and the Claims Depending Therefrom.

Claim 28 is directed to a method of controlling and managing the flight of an outside trim piece cut from a sheet of corrugated board. Note in paragraph b where the claims calls for engaging an outside trim edge portion of the sheet with an angled outer surface of a trim stripper that is disposed outside a trim blade. Again we have the recitation that the trim stripper is disposed outside the trim blade. Further the claim calls for engaging an outside trim edge portion of the sheet with the trim stripper. The Smithwick reference does not disclose either of these limitations. Smithwick does not address how to deal with the outside trim edge portion of the corrugated sheet of material. Indeed, the Smithwick reference only concerns itself with ejecting scrap from slots cut in the product board. Paragraph c of claim 28 calls for cutting the outside trim edge portion while compressing the trim stripper between the cutting die and the trim edge portion. Next, in paragraph d, the claim calls for releasing the trim stripper as it passes through the nip defined between the anvil and the cutting die and causing the angled outer surface of the trim stripper to expand outwardly and engage the cut trim edge portion and strip

the cut trim edge portion from the trim blade. Obviously, Smithwick does not teach a procedure for stripping the cut trim piece from the trim blade. Indeed as already argued, there is no stripper disposed outside of the trim blade to act on the cut trim piece. Furthermore, claim 28 specifically calls for the particular angled outer surface of the trim stripper to act on the cut trim piece to strip it from the trim blade.

Claim 30 adds the further limitation of engaging the cut trim piece with a flexible deflector that forms a part of the trim stripper. Here again we have a combination structure. We have first the trim stripper which is a structure like as shown in Figure 2A and then a flexible deflector that extends therefrom like the flexible deflector as shown in Figures 5 and 10. For the same reasons advance before, Smithwick does not include a trim stripper and certainly does not include a flexible deflector that extends outwardly from the trim stripper.

Claim 31 claims a particular way of controlling the movement of the cut trim pieces. Here it is recited that the backside of the deflector engages the cut trim pieces and limits the outward movement of these pieces. Again there is not a flexible deflector in the Smithwick patent that acts on cut trim pieces.

Claim 32 calls for the flexible deflector to curl around the cut trim pieces to control their movement. Again for the same reasons advanced before, there is no such teaching in the Smithwick patent. The lugs 16 of the ejector 10, as shown in Figure 3 of Smithwick, do not curl around any portion of the corrugated board, and certainly not the cut trim pieces.

Claim 33 depends from claim 30 and calls for the flexible deflector to project downwardly from the cutting die and engage the cut trim pieces as they exit the nip and deflect them downwardly. Here the flexible finger simply acts as a deflector. The cut pieces of trim are essentially flung from the nip and in the process engage the backside of the deflector and fall

downwardly. This is a procedure for separating the cut pieces of trim from the product sheets.

Clearly the Smithwick patent does not teach deflecting the cut pieces of trim.

Conclusion

For the reasons, the claims of the present application define patentable subject matter and certainly define over the teachings of the Smithwick reference. Accordingly, the Board of Patent Appeals and Interferences should reverse the Examiner and find that claims 1-35 are patentable.

Respectfully submitted,

COATS & BENNETT, P.L.L.C.

By:



Larry L. Coats
Registration No. 25,620
P.O. Box 5
Raleigh, NC 27602
Telephone: (919) 854-1844

(9) APPENDIX

Claims

1. A rotary cutting die for cutting corrugated board and trimming an outside trim piece from the corrugated board so as to yield a product portion comprising:
 - (a) a base adapted to be mounted to a rotary cylinder;
 - (b) at least one trim cutting blade secured to the base and extending outwardly therefrom for trimming an outside trim piece from a sheet of corrugated board; and
 - (c) at least one trim stripper mounted outside the trim cutting blade for engaging the trim piece and stripping the trim piece from the product portion, the trim stripper including an angled outer stripper surface that is angled outwardly and away from the trim blade in such a fashion that at least a portion of the angled outer stripper surface extends outwardly past the height of the trim blade.
2. The rotary cutting die of claim 1 wherein the trim stripper includes an edge that normally faces the trim cutting blade, and wherein the angled outer stripper surface and the edge facing the trim blade form an angle greater than 90 degrees.
3. The rotary cutting die of claim 1 wherein the cutting die is adapted to work in conjunction with a rotary anvil to trim a corrugated board sheet passing through a nip area formed between the rotating cutting die and anvil, and wherein the angled outer surface of the trim stripper acts to engage a leading edge of the corrugated board sheet as it enters the nip area and further the outer angled surface of the trim stripper contacts and holds one or more cut pieces of trim scrap against the anvil as the cut trim scrap exits the nip so as to cause the trim scrap to

be directed generally downwardly by the anvil as the anvil transfers the cut trim scrap away from the nip area.

4. The rotary cutting die of claim 2 wherein the edge of the trim stripper that normally faces the trim blade includes an upper beveled filler region that normally lies adjacent an upper beveled portion of the trim blade such that the trim stripper may assume a flush mounted position adjacent the trim blade.

5. The rotary cutting die of claim 1 wherein the trim stripper is constructed of a closed cell rubber having a durometer of approximately 30-60.

6. The rotary cutting die of claim 1 wherein the cutting die is adapted to rotate in a given direction and the outer angled surface of the trim stripper intersects with an edge of the trim stripper that normally faces the trim blade to form an angle greater than 90 degrees, and wherein the upper surface of the stripper is angled such that it extends from the intersection with the edge outwardly with respect to the base and in the general direction that the cutting die is adapted to rotate such that the angled upper surface of the stripper leads the adjacent trim blade.

7. The rotary cutting die of claim 6 wherein the angled upper surface of the trim stripper includes a leading portion that extends outwardly past the height of the trim blade and a trailing portion that assumes a height that is approximately the height of the trim blade.

8. The rotary cutting die of claim 1 wherein the trim stripper includes two separate angled upper surfaces that enable the trim stripper to be reversed.

9. The rotary cutting die of claim 8 wherein the two angled upper surfaces form an apex that forms a demarcation between the respective upper surfaces.

10. The rotary cutting die of claim 1 including both trailing and leading trim blades and wherein at least one trim stripper is disposed adjacent the trailing trim blade and the leading trim blade.
11. The rotary cutting die of claim 10 wherein the outer stripper surface of each trim stripper is angled outwardly and away from the adjacent trim blade.
12. The rotary cutting die of claim 1 wherein the trim stripper includes a flexible trim deflector.
13. The rotary cutting die of claim 12 wherein the trim deflector is spaced from and leads the trim cutting blade.
14. The rotary cutting die of claim 13 wherein the trim deflector assumes the shape of a flexible finger.
15. The rotary cutting die of claim 14 wherein the trim stripper includes a main body portion and wherein the flexible finger extends outwardly from the main body portion.
16. The rotary cutting die of claim 15 wherein the finger is relatively thin compared to its transverse width.
17. The rotary cutting die of claim 1 wherein the angled surface of the trim stripper includes a trailing portion disposed adjacent the trim blade and a leading portion spaced forwardly of the trim blade and wherein there is provided a trim deflector that is disposed adjacent the leading portion of the angled surface and projects outwardly therefrom past the height of the trim blade.
18. The rotary cutting die of claim 15 wherein the flexible finger extends transversely across the main body portion of the trim stripper.

19. The rotary cutting die of claim 12 wherein the trim stripper includes a main body portion and wherein the flexible finger projects outwardly from the main body portion; and wherein the main body portion includes a leading edge and a trailing edge, the trailing edge being disposed adjacent to the trim blade; and wherein the flexible finger projects from the main body portion at a point adjacent the leading edge of the main body portion of the trim stripper.

20. The rotary cutting die of claim 1 wherein the cutting die is operative to cooperate with an anvil to trim a sheet of corrugated board passing through a nip area defined between the cutting die and the anvil, and wherein the trim stripper includes a flexible finger that in a non-compressed position extends outwardly past the trim blade, and wherein the flexible finger functions to curl around a portion of a piece of cut trim as the flexible finger and cut trim pass through the nip defined between the cutting die and the anvil.

21. The rotary cutting die of Claim 20 wherein the length of the flexible finger is such that, in a compressed position, it generally overlies a top portion of the trim stripper and includes a terminal end that terminates short of the trim blade.

22. A rotary cutting die for cutting corrugated board and trimming an outside trim piece from the cutting board so as to yield a product portion comprising:

- (a) a base;
- (b) at least one trim cutting blade secured to the base and extending outwardly therefrom for trimming an outside trim piece from a sheet of corrugated board; and
- (c) at least one trim stripper secured to the base and disposed outside of the trim cutting blade for engaging and stripping the outside trim piece from the corrugated board, the trim stripper including a body portion and a flexible

deflector projecting outwardly from the body portion for engaging the cut trim piece and generally assisting in controlling the movement of the cut trim piece after it has been cut by the cutting die.

23. The rotary cutting die of claim 18 wherein the trim deflector is spaced from and leads the trim cutting blade.

24. The rotary cutting die of claim 22 wherein the deflector assumes the shape of a flexible finger that extends outwardly from the body portion of the trim stripper.

25. The rotary cutting die of claim 24 where the flexible finger extends transversely across the body portion of the trim stripper and extends outwardly past the height of the trim cutting blade.

26. The rotary cutting die of claim 25 wherein the finger is relatively thin compared to its transverse width.

27. The rotary cutting die of claim 22 wherein the body portion of the trim stripper includes an angled outer stripper surface that is angled outwardly and away from the trim blade in such a fashion that at least a portion of the angled surface extends outwardly past the height of the trim blade, and wherein the angled surface of the trim stripper includes a trailing portion disposed adjacent the trim blade and a leading portion spaced forwardly of the trim blade and wherein the trim deflector is disposed closer to the leading portion of the angled surface than the trailing portion of the angled surface.

28. A method of controlling and managing an outside trim piece cut from a sheet of corrugated board passing between a rotary cutting die and a rotating anvil comprising:

- (a) directing the sheet of corrugated board between the rotary cutting die and the rotating anvil;

- (b) engaging an outside trim edge portion of the sheet with an angled outer surface of a trim stripper carried by the cutting die and disposed outside a trim blade;
- (c) cutting the outside trim edge portion of the corrugated board sheet with the trim blade while compressing the trim stripper between the cutting die and the trim edge portion being cut as the corrugated board passes between the cutting die and the anvil; and
- (d) releasing the trim stripper as the trim stripper and cut trim edge portion pass through a nip defined between the anvil and the cutting die causing the angled outer surface of the trim stripper to expand outwardly and engage the cut trim edge portion and strip the cut trim edge portion from the trim blade.

29. The method of claim 28 wherein the sheet of corrugated board includes a leading edge and wherein the method includes directing the leading edge of the sheet of corrugated board into contact with the angled outer surface of the trim stripper.

30. The method of claim 28 including engaging the cut trim with a flexible deflector that forms a part of the trim stripper.

31. The method of claim 30 including engaging the cut trim with a back side of the deflector and effectively limiting the outward movement of the cut trim as it exits the nip between the cutting die and the anvil.

32. The method of claim 30 including curling the flexible deflector around the cut trim portion as the trim stripper and cut trim portion pass through the nip.

33. The method of claim 30 wherein the flexible deflector projects downwardly from the cutting die and as the deflector and cut trim portion exit the nip, the deflector engages the cut trim portion and deflects the same downwardly.

34. The method of claim 33 wherein the flexible deflector includes an elongated finger that projects from a main body portion of the trim stripper and wherein as the finger passes through the nip it tends to curl back and around a cut trim portion causing the cut trim portion to be held between the curled finger and the main body portion of the trim stripper.

35. The method of claim 34 wherein the finger is of a selected length such that when the finger curls back it does not extend substantially past the main body portion of the trim stripper.

CERTIFICATE OF MAILING

HEREBY CERTIFY THAT THIS DOCUMENT IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL, POSTAGE PREPAID, IN AN ENVELOPE ADDRESSED TO: ASSISTANT COMMISSIONER OF PATENTS, WASHINGTON, D.C. 20231.

SIGNATURE _____

DATE _____

Jay Hunt
2/21/2000